The Genus *Phyllophaga* Harris, 1826 (Coleoptera: Scarabaeidae) in Cuba. III. Descriptions of Six New Species and the Male of *Ph. cardini* Chapin.

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Introduction

This is the third part of a series on the genus *Phyllophaga* in Cuba, which I started a few years ago. It was in press when I left Cuba but it was never published. In the original the pictures were made by Heriberto Maza, to whom I express my gratitude. Also I wish to thank Dr. Alan Hardy for the pictures of the male genitalia. The female genitalia were made by the author of this paper.

Phyllophaga brevicornis, NEW SPECIES

Female.—Submedium. Head and pronotum piceous; elytra and underparts dark castaneous; ovoid. Frons very sparsely punctured, with a depression on both sides of median line; a tiny horn between median line and depressions. Clypeus narrow; punctures fine; margins abruptly reflexed; median indentation deep and angulate. Pronotum moderately punctured; margins entire; anterior angles acute; posterior curved; sides broadly medially dilated. Scutellum sparsely punctured, disc impunctate. Elytra more densely punctured than pronotum; punctures of different sizes, irregularly distributed; sutural margin slightly tumid, wider posteriorly. Pygidium punctured as elytra, but punctures finer; apex subtruncate; piceous spot on central, anterior region. Antennal club small, 3-segmented, long as three previous segments together. Sternites with short hairs, fine punctures. Urosternites densely, finely punctured; fifth segment with a slight depression on each side. Protibia tridentate; distal tooth elongate, median closer to distal. Longer calcar of metatibia slender, acuminate. Length: 13 mm.

Holotype: Female, Vinales, Pinar del Rio, 6-1964, at light, col. unknown. In Zayas collection.

This species is very close to *Ph. scaramuzzai* Garcia but is easily recognizable by its characteristics. When I tried the genitalia, they were missing and the pygidium was loose.

Phyllophaga cardini Chapin

Male.—Submedium, pruinose. Pronotum dark castaneous, head piceous, rest of the body dark brown; slightly ovoid. Frons densely, coarsely, irregularly punctured, base inpunctate; depression on disc forming an almost equilateral triangle with one apex pointing toward the base. Clypeus more densely, coarsely punctured; punctures rather large; margin slightly reflexed; median indentation deep, subangulate. Pronotum less densely, coarsely punctured; punctures more regularly distributed; margins entire; anterior angles acute, posterior obtuse; sides broadly, medially dilated with long reflexed hairs. Scutellum sparsely punctured, disc impunctate. Elytra more densely punctured than pronotum but less than head;

punctured about as elytra, but with finer punctures; apex broadly curved. Antennal club 3-segmented, about as long as stem. Sternites pubescent; hairs long and thick; punctures fine; metasternite less pubescent, hairs shorter, finer. Urosternites densely punctured; punctures fine; some short, fine hairs present; tuft of long hairs, laterally on fifth segments; last segment narrow, grooved almost completely. Protibia tridentate, teeth equidistant. Coxal plates with few thick, straight hairs. Longer calcar of metatibia acuminate, sable-shaped, longer than first tarsal segment. Claws strongly curved, especially the distal tooth. Length: 14–14.5 mm. Fig. 1, 5.

Female.—Frons more coarsely, densely punctured; depression more irregular; margins of clypeus broadly reflexed. Antennal club about as long as three previous segments together. Pygidium more narrowly curved, with a broad longitudinal depression. Tuft of hairs on fifth urosternite longer; the last convex. Length: 14 mm. Fig. 12.

MATERIAL EXAMINED

One male, the Neallotype, col. F. de Zayas, from Turquino, Sierra Maestra, 6-1964, deposited in USNM; one male, col. J. Acuna, from Loma de Cala to P. Mocha, S. Maestra, May 16/48, 3600 to 3900 feet altitude, in Zayas Collection; male, col. F. de Zayas, Loma del Gato, Oriente, 6-1964, in Zayas Collection; female, col. F. de Zayas, Loma del Gato, Oriente, 6-1964; female, col. P. Cardin, Baracoa, Oriente, April 19, 1916, both in Zayas Collection.

Note.—When I started studying these specimens, at first I thought it was a new species, although it was very close to *Ph. cardini* Chapin. Since Chapin based his description upon a female and the genitalia were not published I was not sure if the material I was studying belonged to Chapin's species or not. Fortunately I found a female that belonged to the material that Chapin used for his description. When I studied the genitalia of my material, they were the same as Chapin's species from Baracoa. However, it called to my attention that Chapin included as paratypes specimens from Jaronu, Camaguey. Since these species are very restricted to specific areas, at least the majority, it seemed very probable that the specimens from Jaronu and Baracoa were different species. I was very lucky also in finding one specimen from Jaronu, collected by L. C. Scaramuzza. The genitalia of both groups were different. Consequently, I considered the specimens from Jaronu as a new species and the paratypes of *Ph. cardini* Chapin should be included in it. The description is as follows.

Phyllophaga laboriosa New Species

Very close to *Ph. cardini* Chapin. The main differences are: margins of the clypeus more elevated and median indentation deeper. Frons more strongly punctured but equally irregularly; urosternites less pubescent; underparts lighter than upperparts, which are piceous. The genitalia are completely different. Length: 12.5–14.5 mm. Fig. 11.

Holotype.—Female, col. L. C. Scaramuzza, at light, 5–6–30, No. C. S. C. Ent. 4027. In CAS, No. 14308.

Paratype.—Same data, in UNSM.

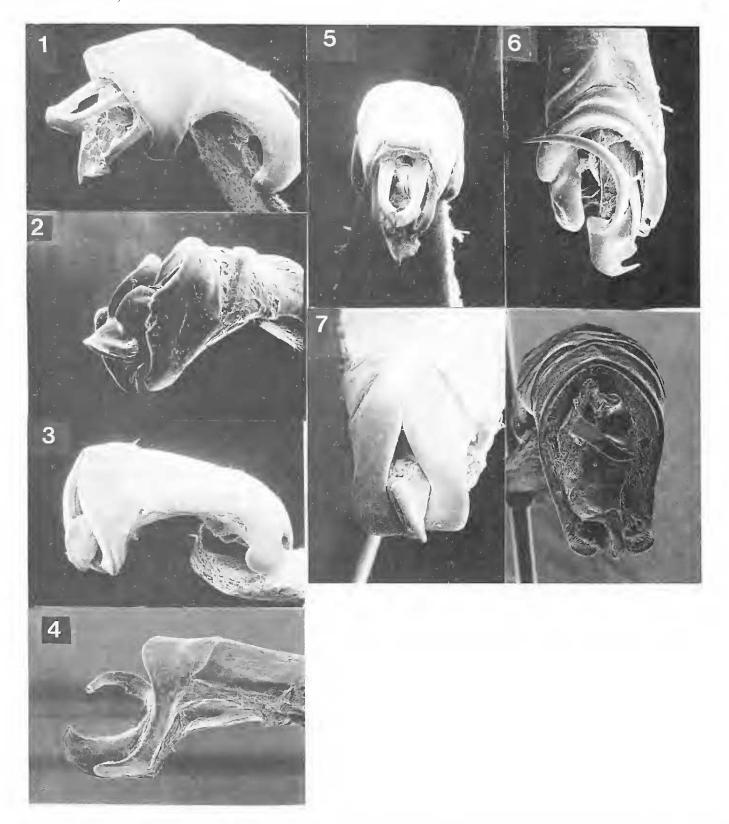


Figure 1. Phyllophaga cardini Chapin, male: Aedeagus, lateral view. Figure 2. Phyllophaga sandersoni, n.sp. male: Aedeagus, lateral view. Figure 3. Phyllophaga scaramuzzai, n.sp. male: Aedeagus, lateral view. Figure 4. Phyllophaga ahlbrandti, n.sp. male: Aedeagus, lateral view. Figure 5. Phyllophaga cardini Chapin, male: Aedeagus, dorso-frontal view. Figure 6. Phyllophaga sandersoni, n.sp. male: Aedeagus, dorso-frontal view. Figure 7. Phyllophaga scaramuzzai, n.sp. male: Aedeagus, dorso-frontal view. Figure 8. Phyllophaga ahlbrandti, n.sp. male: Aedeagus, frontal view.

Phyllophaga siboneyensis New Species

This species is also very close to *Ph. cardini* Chapin and to *Ph. laboriosa* but differs from both as follows: rufocastaneous, disc of pronotum darker; margins of clypeus very slightly reflexed, almost flat, median indentation angulate; from with no depression on disc; lateral margins of pronotum subcrenulate; scutellum punctured as pronotum; sutural margins conspicuous but not elevated; apical apex of pygidium broadly curved; antennal club trisegmented, about as long as four preceding

segments; longer clacar of metatibia about twice as long as first tarsal segment; genitalia different. Length: 13 mm. Fig. 10.

Holotype.—Female, from Siboney, Cuba, Dec. Col. unknown. Deposited in UNSM.

Phyllophaga ahlbrandti NEW SPECIES

Male.—Large, shining, pubescent, elongate, wider posteriorly, castaneous ferrugineous, head dark brown. Frons densely punctured; punctures of different sizes, irregularly distributed. Clypeus punctured as frons; margins broadly reflexed; median indentation broad, deep, subangulate. Antellan club 3-segmented, long as funicle. Pronotum less densely punctured than from; big punctures with long, thick, straight hairs; lateral margins crenulate, with long, thick, reflexed hairs; sides broadly, medially dilated; anterior, posterior margins entire; anterior angles slightly acute, narrowly reflexed; posterior rounded. Scutellum sparsely punctured on margins, disc impunctate, with a few short, thick hairs. Elytra more densely punctured than pronotum but less than head; big punctures with thick, straight hairs; sutural margin tumid. Pygidium densely punctured; fine punctures regularly distributed; hairs fine, short, straight; apex subtruncate with long, fine, straight hairs. Sternites, specially mesosternite, densely punctured; fine punctures with fine, long hairs; metasternite less densely punctured. Urosternites punctured as sternites, but with short, fine hairs. Coxal plates sparsely punctured; with thick, short, long hairs. Protibia tridentate; proximal tooth apart from others; distal stronger. Longer calcar of metatibia acuminate, strong, about as long as first tarsal segment with spines. Claws strongly curved; median tooth stronger than distal. Length: 26 mm. Figs. 4, 8.

Holotype.—Male, col. J. Acuna, F. Valdes B. and C. Fortun, from Rio Yara, Oriente, Cuba, May 15–20/1948, 125–1000 feet altitude aprox. In CAS No. 14370.

Note.—Very characteristic and easily recognized by its pubescence and the aedeagus, which is very complex. From the internal sac protrudes a long strong spine, curved laterally; on it internal margin shorter spines are present. This is dedicated to Mr. Jerry Ahlbrandt.

Phyllophaga sandersoni New Species

Male.—Medium. Castaneous-ferrugineous to yellowish brown. Frons densely punctured; punctures fine; base impunctate. Clypeus slightly more densely punctured; punctures fine, more orderly distributed; margins broadly reflexed; median indentation deep, angulate. Pronotum less densely, more orderly punctured than head; punctures bigger; margins entire; sides medially, slightly dilated, forming a broad curve; anterior angles almost straight, posterior obtuse; thick, long, reflexed hairs on sides. Scutellum punctured about as pronotum, but punctures finer; sutural margins tumid; few hairs posteriorly. Pygidium less densely punctured than elytra; apex broadly rounded. Antennal club with three complete segments, the fourth slightly shorter and a fifth shorter than half of fourth, longer than funicle. Protibia tridentate; teeth almost equidistant. Coxal plates pubescent. Sternites pubescent, specially mesosternite; hairs fine, long. Urosternites sparsely punctured; punctures fine with short hairs; last segment shallowly grooved with some long, fine hairs. Longer calcar of metatibia slender, acuminate, longer than first tarsal segment. Claws curved, median tooth stronger. Length: 18–19.5 mm. Figs. 2, 6.

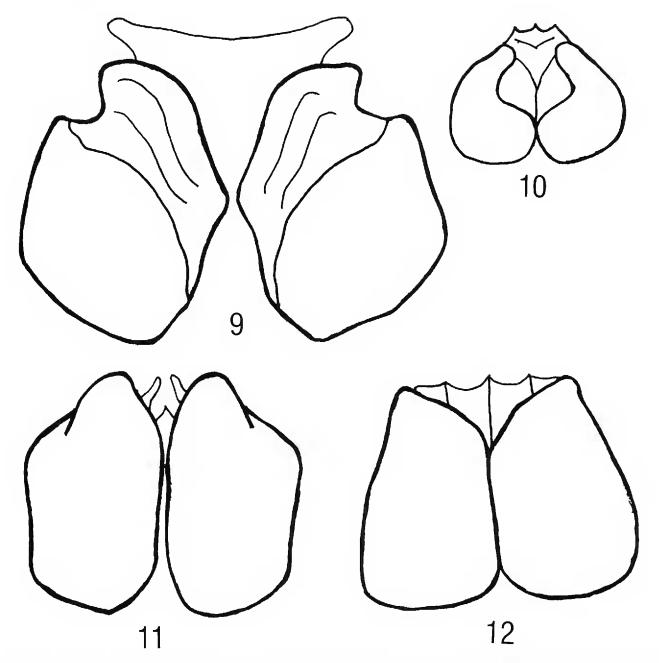


Figure 9. Phyllophaga sandersoni, n.sp. Female genitalia. Figure 10. Phyllophaga siboneyensis, n.sp. Female genitalia. Figure 11. Phyllophaga laboriosa, n.sp. Female genitalia. Figure 12. Phyllophaga cardini Chapin. Female genitalia.

Female.—Pygidium more narrowly rounded; antennal club shorter but 5-segmented also, with same proportions; longer calcar of metatibia wider, about twice as long as first tarsal segment, acuminate. Length 18.5–19.5. Fig. 9.

Holotype.—Male, col. F. de Zayas, Loma del Gato, Oriente, 6/1964, in CAS, No. 14309.

Allotype.—Col. M. W. Sanderson, Cuba, Loma (Pico) del Gato, Sierra Maestra, Prov. Oriente, May 26–28, 1959. In CAS No, 14309.

Paratypes.—Male, col. F. de Zayas, Sierra Maestra, Oriente, 5/1965; female, col. F. de Zayas, Loma del Gato, Oriente, 8/1966, both in Zayas collection, Havana. Three males and three female, col. M. W. Sanderson, Cuba, Loma (Pico) del Gato, Sierra Maestra, Prov. Oriente, May 26–28, 1959. One male and one female deposited in CAS, USNM and Illinois Natural History Survey, Urbana, Ill.

Note.—This species is dedicated with my respects and appreciation to Dr. M. W. Sanderson. The aedeagus presents a long, curved, strong spine and is asymmetric.

Phyllophaga scaramuzzai New Species

Male.—Submedium. Elytra, disc of pronotum and head dark castaneous; underparts, legs and lateral margins of pronotum yellowish brown. Frons densely, coarsely punctured; big, irregularly distributed punctures on disc; fine, orderly distributed on sides; base impunctate. Clypeus slightly less densely punctured; punctures fine; margins abruptly reflexed; median indentation almost obsolete. Antennal club 3-segmented, about as long as funicle. Pronotum less densely punctured than head; a little bigger punctures, more orderly distributed; sides medially, broadly dilated; margins entire; anterior angles almost straight, posterior rounded; depression central on sides, on the light area. Scutellum densely punctured, disc impunctate; punctures as on pronotum. Elytra punctured as pronotum, but punctures slightly smaller, very regularly distributed; sutural margins tumid, feebly carinate, epipleura narrow. Pygidium moderately punctured on disc, sparsely on sides; castaneous spot on center; apex subtruncate. Sternites densely punctured, pubescent, with fine, long hairs and fine punctures. Urosternites scarcely punctured, punctures fine; with few fine, short hairs. Coxal plates very sparsely punctured, disc impunctate, with few thick, long, hairs. Protibia tridentate, teeth equidistant; distal strong. Longer calcar of metatibia slender, acuminate, longer than first tarsal segment. Claws slightly curved; median tooth very small, apical slender. Length: 14 mm. Figs. 3, 7.

Holotype.—Male, col. J. Acuna from Las Martinas, Peninsula Guanacahabibes, Pinar del Rio, 15–6–1943. In CAS, No. 14310.

Note.—This species is very interesting by its general resemblance to Ph. explanicollis Blanch. However it is far smaller and the aedeagus is completely different. It is close also to Ph. hardyi Garcia. It is dedicated to the Cuban entomologist Luis C. Scaramuzza.